

the others converted into a mass of wood-mould held together only by the bark, that there one willingly avoids going forward on an unbroken path. If that must be done, the progress made is small, and there is constant danger of breaking one's bones in the labyrinth of stems. Nearly everywhere the fallen stems are covered, often concealed, by an exceedingly luxuriant bed of mosses, while on the other hand tree-lichens, probably in consequence of the dry inland climate of Siberia, occur sparingly. The pines, therefore, want the shaggy covering common in Sweden, and the bark of the birches which are seen here and there among the pines is distinguished by an uncommon blinding whiteness."—*Nature*.

**Some Notes on Yucca.**—*YUCCA ELATA*: Trunk 3 to 5 feet or more high, leaves linear rigid sharp pointed, filamentose on the white margins; with white oval acute or acuminate bracts as long as the pedicels; flowers white, segments ovate acute, ovary attenuated into a whitish style; capsule cylindrical-ovate obtuse short-cuspidate; seeds large,  $\frac{1}{2}$  inch wide narrowly wing-margined.—*Y. angustifolia*, var. *elata*. Engelm. Notes on Yucca p. 50. *Y. constricta*, Baker, Yuccoideæ p. 229; not Buckley.

Deserts of Arizona probably extending into southern New Mexico and Mexico. Altogether one of the most stately Yuccas, distinguished from the closely allied *Y. angustifolia*, with which I had formerly united it by its distinct trunk, which is usually 3 to 5 feet, but which I have seen even 10 or 11 feet high, and 3 to 7 inches thick, and especially by its long flowering scape, 3 to 7 feet, naked below, and bearing a much branched panicle often 5 feet long; flowers spreading,  $3\frac{1}{2}$  to 4 inches wide, while those of the allied species are more globose, mostly of greenish color, with broadly oval concave segments, with a green stigma; capsule similar to that of *angustifolia*, seeds of same size as in that species but with a narrower margin. Young specimens flower before they make a trunk and they look much like *Y. angustifolia* but can always be distinguished by the naked scape and by the characters of the flower.

*Yucca constricta*, Buckley, appears to be a form of *Y. angustifolia* with a short trunk; the constricted capsules ascribed to it are not normal but occasionally occur in all species of Yucca.

*YUCCA MACROCARPA*, Engelm. 6.224 of this journal, has now been found by C. G. Pringle in flower; the panicle is densely pubescent; flowers about  $2\frac{1}{2}$  to  $3\frac{1}{2}$  inches wide with broadly oval acutish segments. *Y. baccata* has a glabrous panicle and larger flowers with narrow tapering segments. *Y. Schottii*, Engelm., Yucc. 46, from Arizona, is known only from Schott's notes and very poor specimens and has never been identified since. Its panicle is likewise pubescent; its leaves short, narrow and very thick, with few thin fibres. It may possibly be a small-leaved form of *Y. macrocarpa*, which also shows a few thin fibres on the leaves. Both are recommended to the study of observers.—G. ENGELMANN.